

[ANARTS - Australian National Amateur Radio Teletype Society]

ANARTS News Bulletin 814 19th June 1994

3.545 MHz	0930 UTC	VK2BQS (Jim)
7.045 MHz -3	0030 UTC	VK2CTD (Col)
14.070 MHz (amtor/fec)	0030 UTC	VK2DPM (Alan)
14.091 MHz	0030 UTC	VK2BQS (JIM)
146.675 MHz	0030/0930 UTC	VK2JPA (PAT)
144.850 MHz (ax25 bbs)		VK2JPA AT VK2RWI (or VK20P)
146.675 MHz (rtty mmbbs/repeater)		VK2RTY

Contest report

Our contest manager Jim VK2BQS says that the contest seemed to have plenty of stations working despite the bad conditions due to this stage in the solar cycle.

Jim has one hard-luck story, though. He was taking a rest break, had turned off the transmitter but left the receiver running to the screen, when -- up came a ZA station calling CQ Contest. Jim could not believe his eyes but was unable to get on air in time as the ZA station faded into oblivion after only a couple of minutes. He hopes that others worked that station even though he missed out. Them's the breaks - oh well.

The first log has come in already. Don't leave yours too long if you have a slow postal system. Make sure it arrives in plenty of time.

INFORMATION ON NEW ZEALAND AMATEUR LICENCES 11 June 1994

The Ministry of Commerce supplied the following summary figures of numbers of amateur licences for each grade. The first samples are at various times from July 1991 to October 1993, while the second samples are as at the 1st of the month from March 1994 onwards:

Grade	Jul91	Oct91	Apr92	Jul92	Oct92	Apr93	Jul93	Oct93
General	4089	4082	4062	4066	4087	4090	4097	4066
Lim+Nov	67	74	73	76	67	76	75	80
Limited	1966	2059	2034	1981	2109	2129	2111	2197
Novice	37	39	39	42	44	41	41	37
	====	====	====	====	====	====	====	====
totals	6159	6254	6208	6165	6307	6336	6324	6380

Grade	Mar94	Apr94	May94	Jun94
General	4060	4057	4063	4061
Lim+Nov	81	82	84	86
Limited	2181	2222	2211	2207
Novice	39	38	38	40
	====	====	====	====
totals	6361	6399	6396	6394

COMMENTS ON AMATEUR LICENCE INFORMATION:

* Figures are snapshots in time of licence data, of different

comings, goings and upgradings. Additions are mainly following March and September examinations, while attrition is somewhat continuous. Morse tests are available on demand.

- * The real situation of component data changes (by additions, amendments and deletions, as can be seen regularly published in Break-In) are rather more dynamic than can be found by direct inspection of the above summary figures.
- * A study of call sign deletions over the latter part of 1993 indicated a rate of attrition close to 4% per annum for each of General and Limited grades (possibly indicating that rates of loss of interest, incapability or mortality are similar throughout the amateur community).
- * If the rate of attrition is taken as 4% p.a., then estimated rates of addition (to tie in with the licence totals) are:

3% addition per annum for General, so net "growth" is -1%

8% addition per annum for Limited, so net growth is +4%

5% addition per annum all licences, so net growth is +1%

Bob ZL2CA

Editors note -- recently I attempted to obtain similar figures from the SMA, only to be told they were not obtainable and to ask the WIA.

Why cant these figures be extracted from the SMA database on request? Once upon a time not that long ago, these figures were regularly released -- why not now? They are just licence classes and should be retrievable without any trouble. I did want the figures for use in this broadcast, so the enquiry was legitimate. Maybe this procedure can be revised in the future.

Are auroral sounds a real physical effect? by Colin Keay

It is very likely they are produced in a similar way to the rare examples of instantaneous sounds from very large meteor fireballs, which were a mystery for more than two centuries. Very briefly, the turbulent plasma wake of the fireball excites electromagnetic waves in the Earth-Ionosphere cavity. The allowed modes lie in the kilohertz region of the spectrum. In the case of a fireball as bright or brighter than the Moon, megawatts of em energy are produced and the electric vector is strong enough to excite acoustic vibrations in suitable objects, such as loose hair or frozen pine needles. The resulting sounds are heard as hissing, swishing or crackling by anyone in close proximity.

This explanation was developed by me to explain the widely perceived sounds from the huge New South Wales fireball in 1978. It was published in 1980 in SCIENCE. I was quickly able to prove in laboratory tests that rapidly varying electric fields could be heard provided there was something near the

observer to act as a transducer. Even wearing a pair of glasses could raise a subjects threshold by 3 or 4 decibels. Later tests with mundane materials in an anechoic chamber verified that all sorts of objects could respond to rapidly fluctuating electric fields and produce faint sounds.

Detection of the ELF/VLF em radiation from a meteor firball was a much harder probelm because such events are very rare. The Japanese succeeded, publishing proof of the existence of such radiation in 1988. This has finally laid to rest the fallacious conventional wisdom that instantaneous fireball sounds are psychological in origin.

The same is probably true for auroral sounds. They only occur during extremely intense auroral displays, when, according to Olsen (Pure and App. Geophys. 84, 1971) abnormally high electric fields have been measured. Very rapid fluctuations in such fields excite the audible sounds if suitable transducer materials are present. I am sure that attempts to record auroral sounds on a tape recorder, with a microphone lying on the snow, failed because there was nothing nearby to act as a transducer. If the microphone had been placed under a pine tree instead of out in the open the result may hav been very different.

A similar process explains the occasional report of a person hearing a -vit- or -click- at the instant of a lightning stroke before the crash of thunder. Also explained are the rare reports of earthquake sounds just before the seismic shock and the alarm of animals at such times.

These findings open up a whole new field of scientific inquiry which I call geophysical electrophonics. There are no commercial applications in sight yet, but the scope for interesting research is immense.

from IPS Radio and Space Services Solar-Geophysical Summary
May 1994

IPS weekly report

10 June - 16 June 1994

Issue No 24

Date of issue: 17 June 1994

INDICES:

Date	10	11	12	13	14	15	16
10cm	85	86	86	85	85	88	88
A	16	15	26	12	15	09	(05 estimated)
T	36	53	53	42	44	51	47

SUMMARY OF ACTIVITY

Solar activity was low on 15th June and very low for the remainder of the period.

The geomagnetic field at Learmonth (WA) was unsettled to active on 12th, quiet to unsettled 10th-11th, and 13th-15th,

and quiet on 16th. There was one active period on 11th.

Ionospheric F2 critical frequencies at Sydney were mostly near predicted values, with slight enhancements on 11th-12th June, and up to 20 per cent enhancements on 15th-16th.

FORECAST FOR THE NEXT WEEK (17 - 23 June)

SOLAR: Very low to low.

GEOMAGNETIC: Active 20-21 June, quiet to unsettled otherwise.

IONOSPHERIC: Near normal to slightly enhanced.

Courtesy of IPS Radio and Space Services, Sydney

For your information

There have been no M-class solar flares reported since 27th February this year.

VK2SG RTTY DX Notes for weekending 10 June 1994(BID RTDX0610)

Our information this week came from: DJ3IW and the Central-Europe DX Cluster Node DB0SPC, I5FLN and the IK5PWJ Packet Cluster, N2DBI, W2JGR and the NJ0M node The Twin-Cities DX Packet Cluster, VK2SG and W5KSI. Thank you all for your assistance.

BANDPASS

Friday 3

1701-14073 5R8KH PACTOR
2044-14087 SV5/DL6RAI
2125-14087 4X6U0
2145-14084 EA2CNT

Saturday 4

1522-14073 A41KB PACTOR
1620-14081 TY1PS
1654-14088 DU1BJD
2038-14086 4X6U0
2217-14087 LU5QAD

Sunday 5

0703-14090 ZA1AJ QSL OK2PSZ
0711-14083 SV5AZP
0734-14085 ZA1MH
1044-14085 4L1BR
1138-14084 SV1ADG
1139-14081 ZA1AJ
1304-14082 ZA1AJ
1550-14081 HI3AB
1701-14084 9N1AA
1714-14085 BV7WB
1721-21085 Z21HD
1723-14085 GU/DL9YAJ
1724-14087 4X6Y0

1752-14087 4L1BR
1752-14085 DU1BJD
1753-14090 ZC4ZZ
1846-14083 BV7WB
1914-14085 SV5/DL6RAI
2013-14083 VP9MZ
2036- 7037 GU/DL9YAJ
2042-14086 4X6UT
2057-14088 ZA1AJ

Monday 6

1817-14089 VQ9JB
1817-14087 Z21HD
2112-14086 PJ2MI

Tuesday 7

1150-14086 EE0TT QSL EA1EVE
2248-14088 IS0LSD
2251-14085 FG5GI

Wednesday 8

1200-14088 C56/DK20C
1246-14082 ER1PE MOLDAVIA QSL I8YGZ
1714-14086 VP5JM
1716-14086 4X6U0
1720-14085 UX0KA
2024-14087 5B4VX
2027-14085 GU/DL9YAJ
2042-14086 4X6U0
2047-14089 HC6CR
2115- 7035 GU/DL9YAJ
2123-14086 Z21HD
2123-14084 7X2DS
2124-14089 A41AD

Thursday 9

0006-14986 ER1PE
0225-14089 VE2MJ
1643-14087 A45XC
1646-14089 UA3BX
1709-14087 4L1BR
1744-14087 SV1ADG
1748-14088 HC6FQ
1807-14088 5B4VX
1807-14087 4L1BR
1813-14084 SV1ADG
1814-14085 EM5U
2106-14088 7X2DS

Notes of Interest.

GRENADA, J3. Doug, KF4KL, reports that he will be going to Grenada 16-23 June and will be operating all digital modes.

SAINT PAUL ISLAND, CY9. A group of operators will be active from Saint Paul from 10-19 June. Will be running two stations around the clock. QSL via K0SN.

MICRONESIA, V6. A group from OKDXA and some operators from the South Pacific, will be on from now until 17 June. Four stations will be on the air, all bands including RTTY. QSL OKDXA, P.O. BOX 88, WELLSTON, OK 74881.

For next week's bulletin, send your Bandpass and Notes of Interest to Jules, W2JGR at W5KSI.#NOLA.LA.USA.NA

Remember, DX DON'T SLEEP.

GL de BOB, WB2CJL at W5KSI.#NOLA.LA.USA.NA

For disposal

1 model 15 keyboard printer and reperforator complete.
5 Terminet keyboard printers, ASCII, serial rs232 output plus manual. As new.

Contact Greg VK2KGH (046) 282255, or write to 28 Harcourt Place, Eaglevale NSW 2558.

Society information

The Society may be contacted at : P0 Box 860, Crows Nest 2065 Australia, for such matters as membership and general enquiries. Enquiries can also be made by packet to the President (Col) VK2CTD, or the Secretary (Pat) VK2JPA at VK2RWI.

News items may be sent to Broadcast Officer P0 Box 60 Blacktown 2148 Australia, or by packet to VK2JPA at VK2RWI. Email addresses for the Broadcast Officer are :

patl(at)pitt.conmusic.su.oz.au

The Society welcomes news items on any digital subjects from anywhere in the broadcast coverage area. We know we reach New Zealand and many South Pacific islands, and we were reaching as far north as Japan when conditions were right. We are looking forward to news from your areas to let other amateurs know what you are doing in the hobby. Hope to hear from you.

73s de Pat VK2JPA Broadcast Officer

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